

**Applicant: Marvin L. Green**  
**Serial No.: 10/777,698**  
**Group Art Unit: 1711**

**REMARKS**

Claims 1-42 remain in this application with claims 1, 14, and 34 in independent form.

**Obviousness-type Provisional Double Patenting Rejection:**

Claims 1 and 34 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application Serial No. 10/844,629. Applicant respectfully disagrees that the claims "are identical in scope" as asserted by the Office; especially since claim 1 of the '629 application includes "a cross-linking agent" element that is not recited in the claims of the subject application. However, to expedite prosecution of the subject application and allowance of all claims, Applicant submits herewith a timely filed Terminal Disclaimer in compliance with 37 C.F.R. §1.321(c). The Terminal Disclaimer is accompanied by the fee required under 37 C.F.R. §1.20(d). It is believed that the Terminal Disclaimer overcomes the provisional double patenting rejection.

**35 U.S.C. §102 Rejection:**

Claims 1-42 stand rejected under 35 U.S.C. §102 as being anticipated by United States Patent No. 6,319,311 to Katz et al. The Office contends that Katz et al. discloses a powder coating composition that includes a silyl carbamate component useful as a crosslinker and/or an adhesion promoter.

Applicant submits that the Office has failed to establish that Katz et al. anticipates the subject invention as claimed. Specifically, Katz et al. fails to disclose each and every

element as set forth in the claims, either expressly or inherently. Accordingly, Applicant traverses the 35 U.S.C. §102 rejection.

Claim 1 of the subject invention claims a polyester resin composition having increased cross-linking capability for use in a coating composition. The resin composition comprises the *reaction product* of a first compound, *a carbamate compound*, and a silyl compound. The first compound has a plurality of hydroxyl groups and the carbamate compound is reactive with the hydroxyl groups of the first compound. The carbamate compound is added in an amount sufficient to form *a carbamated intermediary having at least one primary carbamate group* available for cross-linking and having unreacted hydroxyl groups. The silyl compound has a terminal isocyanate group for reacting with the unreacted hydroxyl groups of the carbamated intermediary and having silylalkoxy groups available for secondary cross-linking.

Claim 14 similarly claims a polyester resin composition having increased cross-linking capability for use in a coating composition. The resin composition comprises the *reaction product* of the first compound, a carboxylic acid anhydride, a second compound having at least one epoxy group, *the carbamate compound*, and the silyl compound having a terminal group reactive with hydroxyl groups and having silylalkoxy groups.

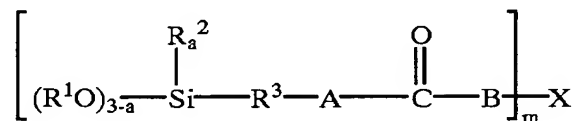
Claim 34 claims a method of preparing a polyester resin composition for use in a coating composition. The method comprises the steps of (A) providing a branched compound having a plurality of hydroxyl groups, (B) *reacting hydroxyl groups with a carbamate compound to form a carbamated intermediary having at least one primary carbamate group* available for cross-linking and having unreacted hydroxyl groups, and (C) reacting the unreacted hydroxyl groups of the carbamated intermediary with a silyl compound having a terminal group reactive with the unreacted hydroxyl groups and

having silylalkoxy groups, each being available for cross-linking, to form the resin composition.

To summarize, the subject invention has the first compound with hydroxyl groups that are reacted with the carbamate compound such that some hydroxyl groups remain unreacted. The carbamate compound has primary carbamate groups that are available for cross-linking. The silyl compound includes terminal isocyanate groups that then react with the unreacted hydroxyl groups forming an internal carbamate linkage. The polyester resin composition includes both silyl functionality and carbamate functionality.

As evidenced by the discussion in the specification as originally filed under the section titled "Background of the Invention", as well as the identification of Katz et al. in the Information Disclosure Statement, Applicant was well aware of the disclosures of Katz et al. Katz et al. does not disclose the unique and novel combination of a carbamate compound and a silyl compound for reacting with a first compound to form a polyester resin composition that has both silyl functionality and carbamate functionality as claimed.

To the contrary, Katz et al. discloses a powder coating formulation that includes a silyl carbamate component having the general formula illustrated below:



$R^1$  is a hydrocarbon or acyl group;  $R^2$  is a monovalent hydrocarbon group;  $R^3$  is alkylene, optionally interrupted with one or more ether oxygen atoms;  $a$  is 0 or 1;  $X$  is an  $m$ -valent organic group;  $m$  is 1-6; and, either  $A=NH$  and  $B=O$  or  $A=O$  and  $B=NH$ . As appreciated by those skilled in the art, carbamate generally refers to  $-NCOO-$  linkages that are present in the composition. Referring to the above formula, the carbamate

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linkage occurs when either  $A=NH$  and  $B=O$  or  $A=O$  and  $B=NH$ . As described at col. 6, lines 11-67 of Katz et al., the silyl carbamate is prepared from reaction of polyol compounds with isocyanatoalkylalkoxysilanes. The polyol compounds are represented in the above formula as X and are described at col. 5, lines 21-34 as an aliphatic, cycloaliphatic, or aromatic group and are listed in Table 1. Applicant recognizes that Katz et al. has an internal carbamate linkage, however, the silyl carbamate component is not formed from a carbamate compound that results in primary carbamate groups.

The silyl carbamate component is formed by reacting isocyanatoalkylalkoxysilanes with the polyols listed in Table 1 and as illustrated in the Examples. The isocyanatoalkylalkoxysilanes have terminal isocyanate groups that react with hydroxyl groups of the polyols to form the carbamate linkage internally within the silyl carbamate. The silyl carbamate components formed in this manner have terminal silylalkoxy groups that are available for cross-linking, however, no primary carbamate groups are available for cross-linking.

To summarize, Katz et al. fails to disclose a polyester resin composition that includes the elements as claimed in claims 1, 14, and 34. Although, Katz et al. does disclose the silyl compound having terminal alkoxy groups and having terminal isocyanate groups for reacting with the polyol to form the carbamate linkage, Katz et al. does not disclose the unique and novel combination of the first compound, the carbamate compound, and the silyl compound, as claimed. Thus, Katz et al. does not disclose each and every element as claimed and the 35 U.S.C. §102 rejection should be withdrawn. In view of the remarks set forth above, claims 1, 14, and 34 are believed to be allowable.

Claims 16, 22, 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Katz et al. in view of Chasser et al. (United States Patent No. 6,294,619). Claims 17,

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21, and 37-38 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Katz et al. in view of Ramesh et al. (United States Patent Application Publication 2003/0050432). Claims 18 and 24 stand rejected under §103(a) as being unpatentable over Katz et al. in view of Mayo et al. (United States Patent No. 5,593,785).


Claims 2-13, 15-33, and 35-42 depend directly or indirectly from claims 1, 14, and 34, which are believed to be allowable. Therefore, the 35 U.S.C. §103 rejections are moot and dependent claims 2-13, 15-33, and 35-42 are also believed to be allowable.

Accordingly, it is respectfully submitted that the Application is now presented in condition for allowance, which allowance is respectfully solicited. If any additional fees become required, the Commissioner is hereby authorized to charge any additional fees or credit any overpayments to Deposit Account 08-2789 in the name of Howard & Howard Attorneys, P.C.

Respectfully submitted

**HOWARD & HOWARD ATTORNEYS, P.C.**

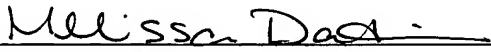
May 2, 2005  
Date

  
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**CERTIFICATE OF EXPRESS MAILING**

I hereby certify that the enclosed Amendment for United States Patent Application Serial Number 10/777,698 filed February 11, 2004 is being deposited with the United States Postal Service as Express Mail, postage prepaid, in an envelope as Express Mail Post Office to Addressee, Mailing Label No. **EV 612 877 746 US** and addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **May 2, 2005**.

  
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Melissa S. Dadisman

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